

Recent Progress in Air Quality and Atmospheric Change in the USDA-NRCS

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March 2, 2006



12 of 79 NRCS Resource Concerns are in Air Quality

- PM₁₀
- PM_{2.5}
- Excessive Ozone
- Odor
- Excessive GHG—CO₂
- Excessive GHG—N₂O
- Excessive GHG—CH₄
- Ammonia
- Chemical Drift
- Reduced Visibility
- Undesirable air movement
- Adverse air temperature



6 Broad Air Resource Focus Areas

- Reducing particulate matter (PM_{10} , $PM_{2.5}$)
- Reducing odors
- Reducing airborne chemical drift
- Reducing ammonia emissions
- Reducing ozone precursors (VOCs, NO_x)
- Reducing greenhouse gas emissions (CO_2 , CH_4 , N_2O) and increasing carbon sequestration



NRCS Air Quality & Atmospheric Change Focus:

Helping private land managers practice conservation of all relevant resource concerns, including water, soil and *air*



Air Quality & Atmospheric Change Integration in NRCS Programs

- Conservation Security Program (CSP)
- Environmental Quality Incentives Program (EQIP)
 - Conservation Innovation Grants (CIG)
- Wildlife Habitat Incentives Program (WHIP)
- Biomass Program



More than \$51 million in financial assistance and nearly \$39 million in technical assistance expended by the NRCS on air quality related activities (programs and conservation planning) between 2002 and 2005



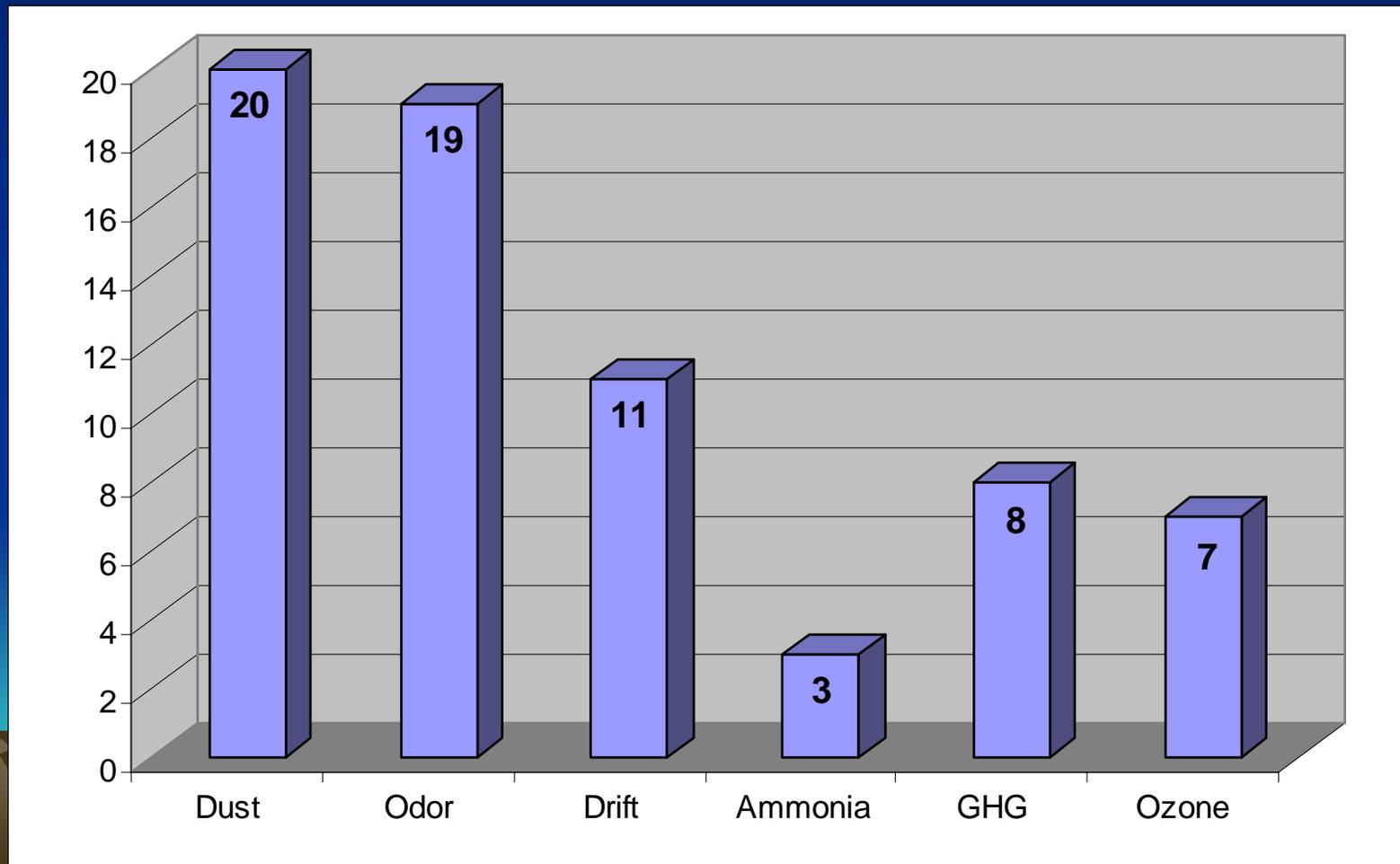
Conservation Security Program (CSP)

- Developed more than 35 worksheets and jobsheets in the 6 air quality & atmospheric change focus areas
- Broad participation by states—nearly all
- 220 watersheds in 2005; 60 just announced for 2006; sign-up thru 3/31



Conservation Security Program (CSP)

No. states offering these enhancements
in 2005:



CSP Expenditures in 2005

- \$12.48 million in cost-share for AQ activities in 41 states and possessions
- Largest cost share in:
 - Michigan (\$2.13 million)
 - Oregon (\$1.30 million)
 - Missouri (\$1.20 million)
 - Colorado (\$1.19 million)
 - New York (\$0.90 million)



CSP Expenditures in 2005

- Others of note:
 - Arizona (\$152,000)
 - California (\$340,000)
 - Montana (\$358,000)
 - North Carolina (\$434,000)
 - South Carolina (\$338,000)
 - Texas (\$130,000)
 - Washington (\$234,000)



New CSP Enhancements in 2006

- EAM-40: Carbon Sequestration Scenario Examination (national enhancement)
 - \$500 one-time payment for investigation of on-farm carbon sequestration potential under various scenarios using COMET-VR
- Worksheet Chemical Drift-8: Use of computer controlled servo actuated spray nozzles to reduce chemical use





- www.cometvr.colostate.edu
- On-line decision support tool for estimating soil carbon sequestration
- Interfaces to a land use database--*****Newly expanded for thousands of additional scenarios--available in next 2 months*****
- Calculates annual carbon flux using a dynamic Century model simulation
- Can be used to document or estimate soil carbon changes from switches to different tillage/management practices
- **Research now starting at CSU on developing nitrous oxide capability with Century/COMET-VR**

Environmental Quality Incentives Program (EQIP)

- \$31.23 million expended on air quality and atmospheric change cost-share programs in FY2005
- In 49 states and possessions



Environmental Quality Incentives Program (EQIP)

- Largest expenditures by state in 2005:
 - California (\$5.90 million)
 - Arizona (\$3.37 million)
 - Michigan (\$2.69 million)
 - New Mexico (\$1.77 million)
 - Texas (\$1.64 million)
 - Washington (\$1.49 million)
 - New York (\$1.44 million)

Environmental Quality Incentives Program (EQIP)

- Others:
 - Colorado (\$543,000)
 - Idaho (\$284,000)
 - Indiana (\$243,000)
 - Maryland (\$1.05 million)
 - Minnesota (\$904,000)
 - Nebraska (341,000)
 - North Carolina (\$17,000)
 - Wyoming (\$910,000)



Conservation Innovation Grants (under EQIP)

- \$1.6 million awarded for 5 Air Quality projects; 8 additional projects that address air quality as a secondary concern
- New grant proposals due March 20

Also note March 7 deadline for Cooperative Conservation Partnership Initiative proposals



Biomass Program

- \$12.6 million awarded for 11 biomass research, development and demonstration projects that address Air Quality concerns-- selected in a joint effort of USDA and the Department of Energy (DOE)
- A project with the Environmental Resources Trust for nearly \$450,000 specifically targets particulate matter reductions and environmental credits



NRCS Air Quality and Atmospheric Change Personnel Update

- John Brenner left the AQAC team in December to become the NRCS Liaison to the Western Governors Association in Denver; position is now vacant
- Susan O'Neill is new Physical Scientist on the AQAC team

